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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,194	08/11/2000	Sumio Koiwa	S004-4061	8149

7590 04/10/2003
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EXAMINER

MONDT, JOHANNES P

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application N .

09/638,194

Applicant(s)

KOIWA, SUMIO

Examiner

Johannes P Mondt

Art Unit

2826

--The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

THE REPLY FILED 27 March 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: _____

Claim(s) withdrawn from consideration: _____

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
10. ☐ Other: _____

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Continuation of 5. does NOT place the application in condition for allowance because: counter to the allegation of Applicant on which the traverses of claims 1 and 15 are based, the two n⁺ regions of Wen-Shiung Lour et al do form "a plurality of semiconductor layers formed in spaced-apart relation in a surface of a semiconductor substrate", as witnessed by Figure 1 and "Device Fabrication", pp. 1295-'6. With regard to the traverse of the rejection under 103(a) of claims 1-7, the etched surface portion was not in contact with the In metal through which the impurity doping is achieved (cf. p. 1295) because the metal (K) does not extend over the etched portion; therefore, said etched surface portion did not contain elevated levels of conduction band electrons (although this point is strictly irrelevant for the final structure). Therefore, the statement by Applicant that the etched portion corresponds to the n⁺ layers (page 12 of the Response by Applicant) is not correct. Therefore, the examiner must maintain that the depletion region in Wen-Shiung Lour et al does have an etched surface portion and that said etched surface portion is disposed between the semiconductor layers in spaced-apart relation (i.e., the n⁺ regions) in a surface of a semiconductor substrate. With regard to the statement by Applicant on the absence of teaching by Wen-Shiung Lour et al of a depletion layer having "an etched surface portion disposed between the semiconductor layers so that an interface level region of the surface of the substrate does not exist", as the etched region is part of the ZnSe layer (as explained before), and as its etched surface portion is disposed between the n⁺ regions an interface level region of the surface of the substrate does not exist, as qualified further in Paper No. 14, page 4. In summary, the device described by Wen-Shiung Lour et al anticipates claims 15-16 while rendering claims 1-7 obvious in view of Prior Art as Admitted by Applicant. The only substantial difference between the invention and Wen-Shiung Lour et al is the presence of semiconducting material in a portion of the device that is collinear with both n⁺ regions 2a and 2b in the former, while no such presence exists in the device described by Wen-Shiung Lour et al. However, this distinction is of a topographic or geometric nature, and has not found expression in the present claim language.